

Attorney Docket No. FSUN-001/01US

PATENT

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By: _____

Michelle Crosby

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Chase, et al.

Serial No.: 10/688,078

Examiner: not assigned

Confirmation No.: 8210

Art Unit: 1636

Filed: 17 October 2003

For: BIOMOLECULAR-BASED ACTUATOR

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT TRANSMITTAL

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Dated: April 26, 2004

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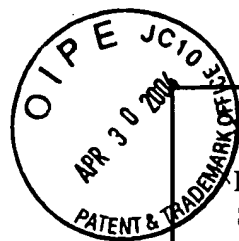


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PTO/SB/08A (08-00)



Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				<i>Complete if Known</i>	
				Application Number	10/688,078
				Filing Date	17 October 2003
				First Named Inventor	P. Bryant Chase
				Group Art Unit	1636
				Examiner Name	Not assigned
Sheet	1	of	3	Attorney Docket Number	FSUN-001/01US

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code ² (if known)		
	P1	2002/0068295	A1	MADOU et al	06-06-2002

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)			
	F1	WO	00/22101	A2	Cornell Research Foundation, Inc.	04-20-2000	
	F2	WO	02/12896	A1	Aviva Biosciences Corp.	02-14-2002	
	F3	WO	01/44302	A2	Zeppezauer, et al.	06-21-2001	Ger.
	F4	WO	02/06789	A2	Ohio State University Research Foundation and Univ. Kentucky Research Foundation	01-24-2002	

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² See attached Kinds of U.S. Patent Documents.
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PTO/SB/08A (08-00)

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				Application Number	10/688,078
				Filing Date	17 October 2003
				First Named Inventor	P. Bryant Chase
				Group Art Unit	1636
				Examiner Name	Not assigned
Sheet	2	of	3	Attorney Docket Number	FSUN-001/01US

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T ²
	D1	BUNK, et al., Actomyosin motility on nanostructured surfaces. <i>Biochem. Biophys. Res. Commun.</i> 301:783-788 (2003)		
	D2	CHAEN, et al., Lower activation energy for sliding of F-actin on a less thermostable isoform of carp myosin, <i>J Biochem (Tokyo)</i> 120:788-791. (1996).		
	D3	CHASE, et al. Viscosity and solute dependence of F-actin translocation by rabbit skeletal heavy meromyosin. <i>Am J Physiol Cell Physiol</i> 278:C1088-C1098 (2000)		
	D4	CHOMCZYNSKI et al., Single-step method of RNA isolation by acid guanidinium thiocyanate-phenol-chloroform extraction. <i>Anal. Biochem.</i> 162:156-9 (1987)		
	D5	DONG, et al., Kinetic studies of calcium binding to the regulatory site of troponin C from cardiac muscle. <i>J. Biol. Chem.</i> 271:688-94 (1996).		
	D6	GORDON, et al. Calcium regulation of skeletal muscle thin filament motility in vitro. <i>Biophys. J.</i> 72:1295-1307 (1997)		
	D7	HARADA, et al., Mechanochemical coupling in actomyosin energy transduction studied by in vitro movement assay, <i>J. Mol. Biol.</i> 216:49-68 (1990)		
	D8	HESS et al., Molecular shuttles based on motor proteins: active transport in synthetic environments, <i>J. Biotechnol.</i> 82:67-85 (2001)		
	D9	HESS, et al., Light-Controlled Molecular Shuttles Made from Motor Proteins Carrying Cargo on Engineered Surfaces <i>Nano Lett.</i> 1:235-239 (2001)		
	D10	HOMSHER et al., Calcium regulation of thin filament movement in an in vitro motility assay. <i>Biophys. J.</i> 70:1881-1892 (1996)		
	D11	HUXLEY, Sliding filaments and molecular motile systems, <i>J. Biol. Chem.</i> 265:8347-8350 (1990)		
	D12	KÖHLER, et al., Familial hypertrophic cardiomyopathy mutations in troponin I (K183D, G203S, K206Q) enhance filament sliding. <i>Physiological Genomics</i> 14:117-128 (2003);		
	D13	KRON, et al., Assays for actin sliding movement over myosin-coated surfaces. <i>Methods Enzymol.</i> 196:399-416 (1991)		
	D14	KUNIOKA, et al., Innocuous labeling of the subfragment-2 region of skeletal muscle heavy meromyosin with a fluorescent polyacrylamide nanobead and visualization of individual heavy meromyosin molecules. <i>J Biochem (Tokyo)</i> 119:1024-32 (1996).		

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				Examiner Name	Not assigned
Sheet	3	of	3	Attorney Docket Number	FSUN-001/01US
OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS					
	D15	LIANG, et al. Ca ²⁺ regulation of rabbit skeletal muscle thin filament sliding: role of cross-bridge number. <i>Biophys. J.</i> 85:1775-1786 (2003)			
	D16	LIMBERIS, et al., Polarized Alignment and Surface Immobilization of Microtubules for Kinesin-Powered Nanodevices, <i>Nano Lett.</i> 1:277-280 (2001)			
	D17	MARGOSSIAN et al., Preparation of Myosin and its Subfragments from Rabbit Skeletal Muscle. <i>Methods Enzymol.</i> 85(Pt B): 55-71 (1982)			
	D18	NICOLAU, et al. Actin motion on microlithographically functionalized myosin surfaces and tracks. <i>Biophys. J.</i> , 77:1126-1134 (1999)			
	D19	NIELSCH, et al., Hexagonally ordered 100 nm period nickel nanwire arrays, <i>Appl Phys Lett</i> 79:1360–1362 (2001)			
	D20	POTTER, Preparation of troponin and its subunits. <i>Methods Enzymol.</i> 85:241-263 (1982)			
	D21	SCHMIDT, et al., Force Tolerance of Hybrid Nanodevices, <i>Nano Lett.</i> 2:1229-1233 (2002)			
	D22	SELLERS and KACHAR, Polarity and velocity of sliding filaments: control of direction by actin and of speed by myosin, <i>Science</i> 249:406-408 (1990)			
	D23	SIDELL, et al., The eurythermal myofibrillar protein complex of the mummichog (<i>Fundulus heteroclitus</i>): adaptation to a fluctuating thermal environment, <i>J Comp Physiol</i> 153:167-173 (1983).			
	D24	SOONG, et al., Powering an inorganic nanodevice with a biomolecular motor, <i>Science</i> 290:1555-1558 (2000)			
	D25	SUZUKI, et al., Control of actin moving trajectory by patterned poly(methylmethacrylate) tracks. <i>Biophys. J.</i> 72:1997-2001 (1997)			
	D26	TOYOSHIMA, et al., Bidirectional movement of actin filaments along tracks of myosin heads, <i>Nature</i> 341:154-156 (1989)			

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